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CLEAN DEVELOPMENT MECHANISM SMALL-SCALE PROGRAM ACTIVITY DESIGN DOCUMENT FORM (CDM-SSC-CPA-DD) Version 01

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NOTE:

(i) This form is for submission of CPAs that apply a small scale approved methodology using the provision of the proposed small scale CDM PoA.

(ii) The coordinating/managing entity shall prepare a CDM Small Scale Programme Activity Design Document (CDM-SSC-CPA-DD)^{1,2} that is specified to the proposed PoA by using the provisions stated in the SSC PoA DD. At the time of requesting registration the SSC PoA DD must be accompanied by a CDM-SSC CPA-DD form that has been specified for the proposed SSC PoA, as well as by one completed CDM-SSC CPA-DD (using a real case). After the first CPA, every CPA that is added over time to the SSC PoA must submit a completed CDM-SSC CPA-DD.

¹ The latest version of the template form CDM-CPA-DD is available on the UNFCCC CDM web site in the reference/document section.

² At the time of requesting validation/registration, the coordinating managing entity is required to submit a completed CDM-POA-DD, the PoA specific CDM-CPA-DD, as well as one of such CDM-CPA-DD completed (using a real case).



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SECTION A. General description of small scale CDM programme activity (CPA)

A.1. Title of the small-scale CPA:

Title: Water Kiosks in Cambodia – CPA 3

Version number: 01 Date: XX/XX/2014

A.2. Description of the small-scale CPA:

The proposed small-scale CDM Programme Activity (hereafter referred as CPA) is developed under the Small-Scale Programme of Activities (PoA) titled "International water purification Programme". It consists of the installation of small-scale water treatment stations ("water kiosks") in Cambodia and distribution of purified water in disinfected water containers.

Inadequate access to microbiologically safe drinking water continuously threatens the health and well-being of more than a billion people, primarily in developing countries. In many areas worldwide the central water infrastructure is not available at all, or not reliable, leading to unsafe water at the tap. In such cases, decentralized water treatment can be used.

In Cambodia, around 40% of the rural population does not have access to an improved water source.³ People in Cambodia who do not have access to safe water are forced to take water from unimproved sources, such as surface water and unprotected wells without any form of water treatment. This endangers the health and well-being of the population, especially children under five years old.

The CPA seeks to further the access of households and communities to clean and safe drinking water, using low greenhouse gas emitting water purification technologies at water treatment stations in rural areas.

The purification process illustrated in Figure 1 results from years of experimentation in Cambodia, which has enabled:

- fine-tuning of the model,
- testing different types of raw water (ponds and groundwater),
- adjusting various parameters (such as the iron-removing process), in order to make the solution technically compatible with operators' skills and economic costs,
- adapting parameters related to raw water and treatment techniques, so as to produce drinking water that meets taste expectations of beneficiaries.

³ WHO / UNICEF Joint Monitoring Programme (JMP) for Water Supply and Sanitation Database http://www.wssinfo.org/data-estimates/table/



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Lake, river, well Settlement tank Settlement tank Settlement tank Settlement tank Settlement tank Settlement tank

Figure 1: Purification process

This CPA is thus primarily designed for the long-term improvement of the living conditions of the local people of this rural part of Cambodia.

The CPA reduces the use and demand of non-renewable biomass that would have been used to boil the water as a mean of water purification in the absence of the CPA. This directly leads to reduced greenhouse gas emissions.

The CPA is a voluntary initiative taken by the coordinating/managing entity (CME) of the PoA, Pure Water Ltd., and implemented on a voluntary basis by Teuk Saat 1001.

With no prospect, in the foreseeable future, of benefitting from the installation of piped water systems and sanitation facilities that would allow them to live, permanently, in an environment that is conducive to good health, Teuk Saat 1001 provides small isolated villages with an alternative which consists in giving them the possibility to fulfil by themselves their most essential need, namely access to drinking water.

For villagers to be able to pay for drinking water, it is necessary to reach the lowest possible production cost. This explains certain technical choices, such as using surface water (or limited depth well drillings) or resorting to a technology (i.e. UV disinfection) that can be supplied by solar energy. Above all, a key element is to create local production capacities devoted to local consumption only, which allows reducing distribution costs to almost nothing.



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Applying these principles makes it possible to provide villagers with totally safe drinking water at the cost of approximately USD 0.01 per litre.

Sustainability comes through the creation of a micro-enterprise operating each water production capacity. Teuk Saat 1001 designed an operating mode which relied on entrusting a family with the responsibility to turn a water treatment unit into an economic activity, in the spirit of microfinance projects: the family produces water, bottles it and sells it in its village so as to achieve sufficient sales to cover its income, as well as the machine's maintenance costs.

This model achieves three goals at the same time: villagers can drink the minimum vital quantity of safe drinking water, an economic activity is created which allows a family to escape extreme poverty; and the sustainability of the operation is guaranteed by the personal interest that the said family operator has in keeping it running.

The following timeline will be followed:

Date	Event					
16 th November 2012	Registration of	Registration of the PoA under the CDM of the UNFCCC.				
xx th December 2013		Emission Reduction Purchase Agreement between Pure Water Ltd. (the CME) and UV + Solaire SAS / Teuk Saat 1001 (implementer).				
February 2014	Local Stakeho (planned)	older Consultation	based on Gold Standard	d requirements		
29 th July 2011 - 31 st December 2013	Installation of 74 water kiosks in Siem Reap, Battambang, Banteay Meanchey, Odor Meanchey, Pursat, Kandal, Kampong Speu, Kampong Cham, Kampong Thom, Kampong Chhnang, Kratie and Prey Veng provinces. (29/07/2011 is the PoA validation start date)					
January 2014 – December 2018	Installation of a	additional 160 water	kiosks throughout Camboo	dia.		
	Construction of	f water treatment sta	tions according to the follo	wing schedule:		
		Year	Number of functional water kiosks			
		1	104			
		2	134			
		3	164			



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4	199	
5	234	
6	234	
7	234	
8	234	
9	234	
10	234	

It is expected that the emission reductions will be approximately 18,000 tCO₂ for 234 devices operating, thus meeting the small-scale eligibility criteria for Type III projects of a maximum of 60,000 tCO₂ emission reductions per year.

Contribution to Sustainable Development in Cambodia

The proposed CPA contributes to the sustainable development of the Cambodia's economy in a number of various ways:

Environmental benefits

- The CPA will help significantly reduce Cambodia's greenhouse gas emissions over its lifetime
- The CPA will help reduce the use of non-renewable biomass from Cambodia's forests, assisting the maintenance of existing forest stock, protecting natural forest eco-systems and wildlife habitats.
- The protection of standing forests will ensure the maintenance of watersheds that regulate water table levels and prevent flash flooding.

Social benefits

- Purchasing or collecting firewood or fossil fuels to boil the water constitute a significant expense for the very poorest households and communities. The CPA will provide access to clean drinking water, which will reduce cost for families and thereby reduce child and adult morbidity and mortality, improve attendance at school, increase productivity, and more generally give a sense of hope and opportunity.
- Micro-entrepreneurs: low greenhouse gas emitting water purification technologies offer scope for micro-entrepreneurs, thereby creating jobs and supporting families.
- There is a direct incentive to ensure that the projects have a successful long term operation as the carbon revenues will flow ex-post and condition to a successful monitoring phase.
- Polluted indoor air due to open and uncontrolled combustion is a huge health concern in Cambodia. Low greenhouse gas emitting water disinfection technologies tackle this problem by reducing the combustion of wood/fossil fuels.
- The CPA will alleviate the work burden of women and children as they have to spend less time to collect firewood for boiling water.



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Economic benefits

- The CPA will help develop a section of Cambodia's economy; in the installation of the devices, maintenance and monitoring.

The proposed CPA will deliver a long-term, secure and simple contribution to sustainable development in Cambodia that without carbon finance would not exist.

A.3. Entity/individual responsible for the small-scale CPA:

The small-scale CPA is implemented and operated by Teuk Saat 1001.

A.4. Technical description of the small-scale CPA:

A.4.1. Identification of the small-scale CPA:

A.4.1.1. Host Party:

Cambodia

A.4.1.2. Geographic reference or other means of identification allowing the unique identification of the <u>small-scale CPA</u> (maximum one page):

The physical boundary of the CPA is the households and communities that will receive the water purification device and the households/institutional buildings where the consumers of safe water provided by the systems are located. This CPA will take place in all provinces in Cambodia.



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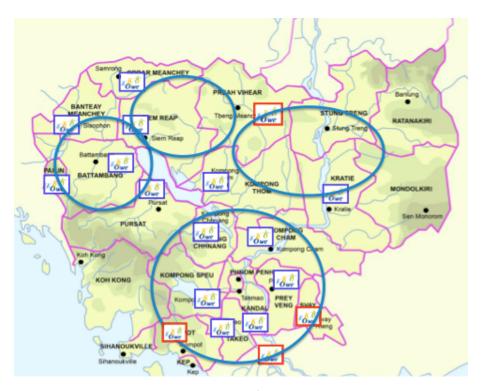


Figure 2: Location of project activity

The coordinates of the Teuk Saat office in Phnom Penh are:

Latitude: 11.536°N Longitude: 104.916°E

A.4.2. Duration of the small-scale CPA:

A.4.2.1. Starting date of the small-scale CPA:

29/07/2011 (PoA validation start date)

A.4.2.2. Expected operational lifetime of the small-scale CPA:

The program is expected to be operational until all communities gained access to household connections of piped water distribution systems supplying safe drinking water. The water kiosks hardware has a lifetime of 10 years and will be replaced by Teuk Saat when necessary.



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A.4.3. Choice of the crediting period and related information:

1 x 10 years

A.4.3.1. Starting date of the crediting period:

Date of inclusion of the CPA in the registered PoA

A.4.3.2. Length of the <u>crediting period</u>, <u>first crediting period if the choice is renewable CP</u>:

10 years

A.4.4. Estimated amount of emission reductions over the chosen crediting period:

Year	Annual estimation of emissions reductions (ERs) in tCO ₂ e
1	8,500
2	11,000
3	13,400
4	16,300
5	19,200
6	19,200
7	19,200
8	19,200
9	19,200
10	19,200
Total estimated ERs in tCO ₂ e	164,400
Total number years of crediting years	10
Average ERs per year	16,440

Over the 10-year crediting period, the CPA will reduce 164,400 tCO₂.

A.4.5. Public funding of the **CPA**:



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The proposed CPA will not involve any public funding.

A.4.6. Information to confirm that the proposed <u>small-scale CPA</u> is not a <u>de-bundled</u> <u>component</u>

- 1. For the purposes of registration of a Programme of Activities (PoA)⁴ a proposed small-scale CPA of a PoA shall be deemed to be a de-bundled component of a large scale activity if there is already an activity⁵, which:
 - (a) Has the same activity implementer as the proposed small scale CPA or has a coordinating or managing entity, which also manages a large scale PoA of the same sectoral scope, and;
 - (b) The boundary is within 1 km of the boundary of the proposed small-scale CPA, at the closest point.
- 2. If a proposed small-scale CPA of a PoA is deemed to be a debundled component in accordance with paragraph 2 above, but the total size of such a CPA combined with a registered small-scale CPA of a PoA or a registered CDM project activity does not exceed the limits for small-scale CDM and small-scale A/R project activities as set out in Annex II of the decision 4/CMP.1 and 5/CMP.1 respectively, the CPA of a PoA can qualify to use simplified modalities and procedures for small-scale CDM and small-scale A/R CDM project activities.

According to the "Guidelines on assessment of debundling for SSC project activities, v03 (EB 54, Annex 13, par. 10) for determining the occurrence of debundling under a Programme of Activities (PoA)", if each of the independent subsystem/measures included in the CPA of a PoA is not larger than 1% of the small scale threshold defined by the methodology applied, than that CPA of PoA is exempted from performing de-bundling check, i.e. considered as being not a de-bundled component of a large scale activity. The small-scale threshold defined by the methodology applied, AMS-III.AV version 03, is the annual emissions reductions 60,000 tCO₂e/y. Thus, 1% corresponds to annual emissions reductions of 600 tCO₂e/y.

A typical water treatment station provides for an average emissions reduction of approximately 100 tCO₂e per year, which is below the threshold of 600 tCO₂e/y required by the de-bundling check.

A.4.7. Confirmation that <u>small-scale CPA</u> is neither registered as an individual CDM project activity or is part of another Registered PoA:

⁴ Only those POAs need to be considered in determining de-bundling that are: (i) in the same geographical area; and (ii) use the same methodology; as the POA to which proposed CPA is being added

⁵ Which may be a (i) registered small-scale CPA of a PoA, (ii) an application to register another small-scale CPA of a PoA or (iii) another registered CDM project activity



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The proposed CPA is neither registered as an individual CDM project nor is part of another registered PoA.

The CPA implementer has warranted that:

- The CPA has not been and will not be registered as a single CDM project activity or as a CPA under another PoA or as a carbon project under a voluntary scheme.
- The CPA Implementer is aware that the CPA will be subscribed to this present PoA.
- The CPA Implementer cedes its rights to claim and own emission reductions under the Clean Development Mechanism of the UNFCCC or any voluntary scheme to the managing entity of this present PoA.

SECTION B. Eligibility of small-scale CPA and Estimation of emissions reductions

B.1. Title and reference of the Registered PoA to which small-scale CPA is added:

International water purification programme, version 06, dated 02/10/2012.

B.2. Justification of the why the $\underline{\text{small-scale CPA}}$ is eligible to be included in the Registered PoA:

The proposed SSC-CPA is deemed to be eligible for inclusion in the PoA when the criteria set out in section A.4.2.2 of the SSC-PoA-DD are met.

No ·		Eligibility criteria	Means of proof	Confirmation
	Descripti on	Conditions to be met		
1	Technol ogy requirem ents	The water purification technologies include either: 1. Water filters (membrane, activated carbon, ceramic filters), solar energy powered UV disinfection devices, other solar disinfection techniques (SODIS), photocatalytic disinfection equipment, pasteurization appliances, chemical disinfection methods	Specification of water purification device.	Yes, the CPA involves sand filtration and solar energy powered UV disinfection which are mentioned as low greenhouse gas emitting technologies in AMS-

III.AV (version 3).



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		(chlorination), combined treatment approaches (flocculation plus disinfection) 2. A low greenhouse gas emitting technology: related ex-ante project emissions are less than 10% of the ex-ante baseline emissions calculated as per section B.5.2 of the CPA DD.		
2		Water purification technologies involve point-of use (POU) or point-of-entry treatment systems for residential or institutional applications such as systems installed at a school or a community centre	Specification of water purification device and CPA implementation plan (see section A.2.)	Yes, the CPA involves point-of-entry water treatment. Request for clarification to the CDM SSC WG: F-CDM-SSCwg SC_673
3		The application of the project technology/equipment achieves compliance either with: (i) at a minimum the "interim" performance target as per "Evaluating household water treatment options: Health based targets and microbiological performance specifications" (WHO, 2011); or (ii) an applicable national standard or guideline.	Laboratory testing or official notification (for example notifications from the national authority on health)	Yes, the CPA involves technology that achieves compliance with WHO performance targets and national standards.
4	Applicab ility of the methodo logy	Prior to the implementation of the project activity, a public distribution network supplying safe drinking water (SDW) to the project boundary does not exist.	Interviews with officials, end-users, NGOs, or local experts or published reports, maps, pictures, official documents	Yes, the CPA involves construction of water treatment stations only in areas where there is no access to public water distribution networks
5		In cases where the life span of the water treatment technologies is shorter than the crediting period of the project activity, there shall be documented measures in place to ensure that end users have access to replacement purification systems of comparable quality.	CPA implementation plan (see section A.2.)	Yes, measures are in place to ensure that water kiosks will be operational for more than 10 year.



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6	Applicability of the methodology is foreseen in the following types of situations that shall be reassessed at the beginning of each crediting period:	JMP data (report 2013)	Yes, the project qualifies for Case 2 as 61% of the rural population in Cambodia has access to an improved source.
	(a) Case 1: Project activities		
	implemented in rural or urban		
	areas ⁶ of countries with		
	proportion of rural population		
	using an improved drinking-		
	water source equal to or less		
	than 60% confirmed by one of		
	the three options below:		
	(i) Proportion of populations		
	using an improved drinking-		
	water source for the		
	most recent year for which		
	data is available from WHO/UNICEF Joint		
	Monitoring Programme (JMP)		
	for Water Supply and		
	Sanitation shall be used		
	(<http: dat<="" td="" www.wssinfo.org=""><td></td><td></td></http:>		
	aestimates/table/>) for this		
	purpose. Definition of		
	improved and unimproved		
	drinking water source shall be		
	as per the information		
	provided by JMP;		
	(ii) Using official data such		
	as publicly available statistical		
	data from a government		
	agency or an independently		
	commissioned study by an		
	international organization or		

⁶ As per the WHO/UNICEF Joint Monitoring Programme for water supply and sanitation.

an university;



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7	Boundar y and location of the CPA	(iii) Using survey methods (use 90/10 confidence/precision for sampling); (b) Case 2: Project activities implemented in areas not included in case 1. The CPA is located within one of the host countries listed in section A.4.1.1 of the PoA DD. CPA involves only one host country.	The CPA project boundary is limited to one host country, Cambodia (see section A.4.1.1.)	This draft CPA-DD is intended for the application for the Cambodian LoA
8	Avoidan ce of double counting	The CPA is exclusively bound to the PoA. Confirmation that the PoA has not been and will not be registered either as a single CDM project activity or as a CPA under another POA.	The specific CPA will not be part of another single CDM project activity or CPA under another PoA (see section A.4.6.)	Yes, the CPA is not part of another single CDM project activity or CPA under another PoA. This has been checked on UNFCCC website on 16/12/2013.
9	S	A unique numbering or identification system for the water purification devices disseminated is applied.	Water kiosk database	Yes, a unique numbering system for water treatment stations will be applied.
10	Start date	The CPA start date (first appliance sold or distributed) shall be after the PoA validation start date (webhosting date, i.e. 29/07/2011). In case any deployed water purification device are found not in line with CPA start date requirement, those devices will not be counted for emission reduction calculation. The CPA crediting period shall be limited by the PoA crediting period.	The start date of the CPA will be specified in each CPA-DD and is after 29/07/2011. CPA crediting period is 10 years, starting from 01/10/2014 ⁷ , ie. until 30/09/2023. The PoA crediting period is 28 years starting 19/11/2012, ie. until 19/11/2024.	Yes, the CPA start date is 29/07/2011, which is the PoA validation start date.

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⁷ Expected inclusion date in the International Water Purification Programme



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	Addition ality of CPAs	The CPA shall satisfy the following additionality test based on the GUIDELINES ON THE DEMONSTRATION OF ADDITIONALITY OF SMALL-SCALE PROJECT ACTIVITIES (Version 09.0): The CPA shall solely be composed of isolated units where the users of the technology/measure are households or communities or Small and Medium Enterprises (SMEs) and where the size ⁸ of each unit is no larger than 5% of the small-scale CDM thresholds;	Calculation showing that the CPA remains below 60ktCO2e per year. Evidence showing that each of the device achieves an annual emission reduction equal to or less than 3,000 tCO2e per year. Evidence that the users shall be households or communities or Small and Medium Enterprises (SMEs), based on CPA implementation plan mentioning the target users or distribution records. Document: excel sheet calculation, technology specification, CPA implementation plan mentioning the target users or distribution records.	Yes, the total emissions reductions remains below 60ktCO ₂ e per year. Each water treatment station achieves an annual emission reduction less than 3,000 tCO2e per year. Users will be households and SMEs.
12	SSC Limit for CPAs	The annual emissions reductions of each CPA shall not go beyond the limits of 60 ktCO ₂ e/y over the entire crediting period.	The maximum number of water purification appliances based on the technology used which generates annual emission reductions below 60 ktCO ₂ e/y	Yes, the annual emissions reductions of the CPA does not go beyond the limits of 60 ktCO ₂ e/y over the entire crediting period.
13	Samplin g requirem ents	The conditions related to sampling requirements for the PoA are in accordance with the approved guidelines/standard from the Board pertaining to sampling and surveys (Standard for sampling and surveys for CDM project activities and programme of activities, Version 03.0 and Guidelines for sampling and survey for	As specified in the sampling plan in the CPA-DD and according to the sampling requirements specified at PoA level	Yes, the sampling requirements are in accordance with standards for CDM programme of activities and with methodology AMS-III.AV.

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⁸ That is the size of each unit under 750 kW installed capacity or under 3000 MWh of energy savings per year or 3000 tonnes of emission reductions per year.



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		CDM project activities and programme of activities Version 02.0) and are in line with the requirements of the applied methodology AMS.III.AV, version 3.		
14	De- bundling	Each water purification device reduces less than 600 tCO ₂ e/y ⁹ .	Calculation	Yes , each water water kiosk reduces around 100 tCO ₂ e/y which is less than 600 tCO ₂ e/y.
15	Contract ual agreeme nt	The CPA implementer has signed a contractual agreement with the CME to participate in the PoA. Such agreement guides the transfer of the emission reduction rights to the CME.	Contract between UV + Solaire SAS (for Teuk Saat 1001) and the CME	A contract will be signed Q4 2013 or Q1 2014.
16	Local Stakehol der Consulta tion	A local stakeholder consultation has been conducted for CPA.	Local Stakeholder Consultation Report	To be conducted in early 2014.
17	Environ mental Analysis	CPA is in line with the environmental host Party laws/regulations.	EIA exemption or EIA report.	Yes, the CPA is in line with environmental laws and regulations in Cambodia.
18	Diversio n of official develop ment assistanc e	CPA should not result into the diversion of official development assistance	Declaration from Teuk Saat 1001	Yes, the CPA will not result into the diversion of official development assistance.
19	Target group	CPA shall target residential or institutional applications	[Evidence that the users shall be households or communities or Small and Medium Enterprises (SMEs), based on CPA implementation plan mentioning the target	Yes, the CPA targets SMEs for providing safe drinking water to households.

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⁹ According to the "Guidelines on assessment of debundling for SSC project activities, v03 (EB 54, Annex 13, par. 10) for determining the occurrence of debundling under a Programme of Activities (PoA)", if each of the independent subsystem/measures included in the CPA of a PoA is not larger than 1% of the small scale threshold defined by the methodology applied, than that CPA of PoA is exempted from performing de-bundling check, i.e. considered as being not a de-bundled component of a large scale activity.



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	users or distribution records. Documents: CPA
	implementation plan or
	distribution records.]

The CPA meets all these criteria, as evidenced by this CPA-DD which may be reviewed by DOE during validation.

B.3. Assessment and demonstration of additionality of the <u>small-scale CPA</u>, as per eligibility criteria listed in the Registered PoA:

As per section E.5.1 of the PoA-DD, the project proponents choose test a to demonstrate additionality.

This additionality test is based on Annex 27 of EB 68 according to which small scale projects are deemed additional if they are solely composed of isolated units where the users of the technology/measure are households or communities or Small and Medium Enterprises (SMEs) and where the size¹⁰ of each unit is no larger than 5% of the small-scale CDM thresholds.

This EB guidance recognizes the specific barriers faced by projects targeting households, communities or Small and Medium Enterprises (SMEs).

The SSC-CPA size is below 60 ktCO₂e per year, therefore Test a is used.

Test	a	Yes/No
1	Are the users of the technology/measure households or communities or Small and	Yes
	Medium Enterprises (SMEs)	
2	Is the size of each unit no larger than 5% of the small-scale CDM threshold, ie. No	Yes
	larger than 3,000 tCO2e per year	

The CPA fulfils all the conditions from Test a. The CPA is thus additional.

B.4. Description of the sources and gases included in the <u>project boundary</u> and proof that the <u>small-scale CPA</u> is located within the geographical boundary of the registered PoA.

As defined in the methodology, the project boundary includes the physical, geographical sites of the low greenhouse gas emitting technologies for water purification installed by the project activity.

The sources and gases included in the SSC-CPA boundary are shown in the table below:

¹⁰ That is the size of each unit under 750 kW installed capacity or under 3000 MWh of energy savings per year or 3000 tonnes of emission reductions per year.



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	Source	Gas	Included?	Justification / Explanation
ne	CO ₂ emissions from fossil fuels/ Non Renewable biomass utilized for obtaining safe drinking water by boiling displace due to project activity.	CO_2	Yes	Main emission source
Baseline		CH ₄	No	Minor emission source
Ba		N_2O	No	Minor emission source
+ ×	CO ₂ emissions from consumption of fossil fuels and/or electricity for the operation of the project activity.	CO_2	Yes	Main emission source
Project Activity		$\mathrm{CH_4}$	No	Minor emission source
		N_2O	No	Minor emission source

B.5. Emission reductions:

B.5.1. Data and parameters that are available at validation:

Data and parameters not monitored

Data / Parameter:	EF _{projected_fossilfuel}
Data unit:	tCO ₂ /TJ
Description:	Emission factor as per AMS-I.E procedures when NRB is displaced or the
	emission factor of the fossil fuel substituted
Source of data used:	AMS-I.E for NRB displacement, IPCC for other fossil fuel displaced
Value applied:	81.6
Justification of the	As per AMS-I.E, this value represents the emission factor of the substitution
choice of data or	fuels likely to be used by similar users, on a weighted average basis.
description of	
measurement methods	
and procedures actually	
applied:	
Any comment:	

Data / Parameter:	WH
Data unit:	kJ/L °C
Description:	Specific heat of water
Source of data used:	AMS-III.AV version 03
Value applied:	4.186
Justification of the	Default value.
choice of data or	
description of	



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measurement methods	
and procedures actually	
applied:	
Any comment:	For the calculation of the Specific Energy consumption (SEC)

Data / Parameter:	T_f
Data unit:	°C
Description:	Final temperature
Source of data used:	AMS-III.AV version 03
Value applied:	100
Justification of the	Default value. Boiling point of water at standard conditions.
choice of data or	
description of	
measurement methods	
and procedures actually	
applied:	
Any comment:	For the calculation of the Specific Energy consumption (SEC)

Data / Parameter:	T_{i}
Data unit:	°C
Description:	Initial temperature
Source of data used:	AMS-III.AV version 03
Value applied:	20
Justification of the	Default value.
choice of data or	
description of	
measurement methods	
and procedures actually	
applied:	
Any comment:	For the calculation of the Specific Energy consumption (SEC)

Data / Parameter:	WHE
Data unit:	kJ/L
Description:	Latent heat of water evaporation
Source of data used:	AMS-III.AV version 03
Value applied:	2260
Justification of the	Default value. The latent heat required to boil one litre of water for five minutes
choice of data or	is assumed to be equivalent to latent heat for the evaporation of 1% of the water



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description of	volume (WHO recommends a minimum duration of five minutes of water
measurement methods	boiling) ¹¹
and procedures actually	
applied:	
Any comment:	For the calculation of the Specific Energy consumption (SEC)

Data / Parameter:	η_{wb}
Data unit:	-
Description:	Efficiency of the water boiling system being replaced
Source of data used:	AMS-III.AV Version 03 / referenced literature / survey
Value applied:	XX% (Baseline survey in 2014)
Justification of the	One of the options below is used:
choice of data or	
description of	1) The efficiency of the water boiling system will be established using
measurement methods	representative sampling methods or based on referenced literature values
and procedures actually	(fraction), using weighted average values if more than one type of systems are
applied:	encountered.
	2) 0.10 default value is used if the replaced system or the system that would have been used is a three stone fire or a conventional system for woody biomass lacking improved combustion air supply mechanism and flue gas ventilation system i.e. without a grate as well as a chimney; for the rest of the systems using woody biomass 0.2 default value will optionally be used. 0.5 default value will be used if the replaced system or the system that would have been used is a fossil fuel combusting system. Use weighted average values if more than one type of systems are encountered. This CPA used option X to determine the efficiency of the water boiling system being replaced.
Any comment:	[The water boiling systems and the fuel used in the baseline have been established ex-ante via a baseline survey or based on referenced literature values.]

Data / Parameter:	f_{NRB}
Data unit:	
Description:	EB 67 Report Annex 22
Source of data used:	AMS-I.E
Value applied:	77%
Justification of the	Fraction of woody biomass used in the absence of the project activity in year y
choice of data or	as per "Information note: Default values of fraction of non-renewable biomass

WHO guidelines for Emergency Treatment of drinking water at point of the use http://www.searo.who.int/LinkFiles/List of Guidelines for Health Emergency Emergency treatment of drinking water.pdf>.



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description of	for least developed countries and small island developing states (version 01.0)"
measurement methods	
and procedures actually	
applied:	
Any comment:	

Data / Parameter:	L_{P}
Data unit:	Liters/appliance/day
Description:	Capacity of the water purification equipment
Source of data used:	Manufacturer's specifications
Value applied	N/A
Justification of the	N/A as quantity of purified water is monitored directly
choice of data or	
description of	
measurement methods	
and procedures actually	
applied:	
Any comment:	Used to monitor the quantity of purified drinking water together with the
	number of functional project appliances in case where direct monitoring of the
	quantity of purified water is not possible.

Data / Parameter:	POP _P
Data unit:	-
Description:	Number of persons supplied with purified water from each of the functional
	project appliances
Source of data used:	Ex-ante survey
Value of data applied	XX (Baseline survey in 2014)
Justification of the choice of data or description of measurement methods and procedures actually applied:	For project activities falling under Case 1 per paragraph 3 (a), the number of persons supplied with purified water from each of the functional project appliances will be determined ex-ante.
Any comment:	The project activity falls under Case X per paragraph 3(b), therefore [clarify if parameter will be fixed ex-ante or monitored] [For project activities falling under Case 2 per paragraph 3(b), the parameter will be monitored at least biennially.] Used to calculate the cap of purified drinking water consumed for drinking purposes only according to paragraph 6.

Data / Parameter:	DW _{POP}
Data unit:	Liters/person/day
Description:	Average volume of drinking water per person per day
Source of data used:	Official data, WHO, minimum water quantity needed
Value applied	3.5



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	Official data used on average volumes of drinking water per person per day in
choice of data or	emergency situation published by World Health Organization. ¹² Conservative
description of	value as according to AMS-III.AV Version 03 a value of 5.5 litres per person
measurement methods	per day shall not be exceeded.
and procedures actually	
applied:	
Any comment:	

Data / Parameter:	POP _{Boiling}	
Data unit:	-	
Description:	Proportion of total population attended by the project that is serviced at	
	households/buildings where water boiling would have been the purification	
	practice	
Source of data used:	[source of data used]	
Value applied	XX (Baseline survey in 2014)	
Justification of the	An ex-ante survey to determine the proportion of total population attended by	
choice of data or	the project that is serviced at households/buildings where water boiling would	
description of	have been the purification practice is required to estimate the extent of	
measurement methods	suppressed demand in situations where more than 60% of the households have	
and procedures actually	access to an improved water source.	
applied:		
Any comment:	Only relevant for Case 2	

Data / Parameter:	Ex-ante determined parameters for the project emissions from fossil fuel		
	combustion		
Data unit:	-		
Description:	Parameters to be determined ex ante for the calculation of project emissions		
	from fossil fuel combustion as per the tool		
Source of data used:	As per the Tool to calculate project or leakage CO ₂ emissions from fossil fuel		
	combustion" version 02		
Value applied:	To be determined ex-ante for each CPA, which involves consumption of fossil		
	fuel.		
Justification of the	As per the Tool to calculate project or leakage CO ₂ emissions from fossil fuel		
choice of data or	combustion" version 02		
description of			
measurement methods			
and procedures actually			
applied:			
Any comment:	To be considered only in the case the water purification device consumes fossil		
	fuel.		

Data / Parameter: Ex-ante determined parameters for the project emissions from electricity

 $^{^{12}}$ WHO SEARO, Minimum water quantity needed for domestic uses, 3-4 liters per person per day

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	consumption		
Data unit:	-		
Description:	Parameters to be determined ex ante for the calculation of project emissions		
_	from electricity consumption as per the tool		
Source of data used:	As per the Tool to calculate baseline, project and/or leakage emissions from		
	electricity consumption version 01.		
Value applied:	To be determined ex-ante for each CPA, which involves consumption of		
	electricity		
Justification of the	As per the Tool to calculate baseline, project and/or leakage emissions from		
choice of data or	electricity consumption version 01.		
description of			
measurement methods			
and procedures actually			
applied:			
Any comment:	To be considered only in the case the water purification device consumes		
	electricity		

Data / Parameter:	Leakage
Data unit:	-
Description:	Fractional increase in NRB usage by households outside the project boundary
Source of data used:	AMS-I.E Version 5
Value of data applied for the purpose of	0.95
calculating expected emission reductions in section B.5	
Justification of the choice of data or description of measurement methods and procedures actually applied:	Leakage related to the non-renewable woody biomass saved by the project activity will be assessed based on a net to gross adjustment factor of 0.95 to account for leakages. In this case surveys are not required. This is in line with the provisions in AMS-I.E Version 05.0.
Any comment:	

B.5.2. Ex-ante calculation of emission reductions:

Baseline emissions

The baseline emissions shall be calculated as follows, according to AMS.III-AV version 01:

$$BE_y = QPW_y * SEC * f_{NRB,y} * EF_{projected_f ossilf uel} * 10^{-9}$$
(1)



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Where:

 BE_{v}

Baseline emissions during the year y in (tCO₂e)

 QPW_v

Quantity of purified water in year y (litres)

The quantity of purified water is the total amount of water treated by the project activity in year y. It is based on (a) the population serviced by the project equipment, estimated using surveys and (b) an average volume of drinking water per person per day estimated using surveys or official data or peer reviewed literature or local expert opinion (a value of 5.5 litres per person per day¹³ shall not be exceeded).

[For Case 2, total project population needs to be adjusted for the fraction of the population serviced by the project equipment at households/buildings for which it can be demonstrated through documentation or survey that the practice of water purification would have been water boiling.]

SEC

Specific energy consumption required to boil one litre of water (kJ/L)

 $f_{NRR v}$

Fraction of woody biomass used in the absence of the project activity in year *y* that can be established as non renewable as per the relevant provisions of AMS-I.E "Switch from Non-Renewable Biomass for Thermal Applications by the User".

If the displaced fuel is fossil fuel use a default value of 1.0

If a mixture of woody biomass and fossil fuels is used in the absence of the project activity, a weighted average value (e.g. based on energy content of fuels consumed) should be used

 $EF_{proj\,ected_f\,ossilf\,ue}$

Emission factor as per AMS-I.E procedures when NRB is displaced or the emission factor of the fossil fuel substituted (tCO_2/TJ). A default value of 81.6 tCO_2/TJ is used.

Quantity of purified water, QPW_v

This CPA falls into Case 2, the quantity of purified water is measured directly using water meters.

¹³ Based on WHO recommendations (Domestic Water Quantity, Service Level and Health, Table 2: Volumes of water required for hydration, WHO 2003).



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Year	Number of functional devices	Water purified (liters)
1	104	49,348,000
2	134	63,583,000
3	165	77,818,000
4	199	94,426,000
5	234	111,033,000
6	234	111,033,000
7	234	111,033,000
8	234	111,033,000
9	234	111,033,000
10	234	111,033,000

Specific energy consumption, SEC

Specific energy consumption required to boil one litre of water is to be calculated as follows:

$$SEC = \left[WH * (T_f - T_i) + 0.01 * WHE\right] / n_{wb}$$
 (2)

Where:

WH Specific heat of water (kJ/L $^{\circ}$ C). Default value of 4.186 kJ/L $^{\circ}$ C is used.

 T_f Final temperature (°C). Default value of 100 °C¹⁴ is used.

¹⁴ Boiling point of water at standard conditions.



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 T_i Initial temperature of water (°C). Default value of 20 °C is used.

WHE Latent heat of water evaporation (kJ/L)

Use a default value of 2260 kJ/L

The latent heat required to boil one litre of water for five minutes is assumed to be equivalent to latent heat for the evaporation of 1% of the water volume (WHO recommends a minimum duration of five minutes of water boiling)¹⁵

 $\eta_{
m wb}$ Efficiency of the water boiling systems being replaced

Use one of the options below:

- 1. The efficiency of the water boiling system shall be established using representative sampling methods or based on referenced literature values (fraction), use weighted average values if more than one type of systems are encountered;
- 2. 0.10 default value may be optionally used if the replaced system or the system that would have been used is a three stone fire or a conventional system for woody biomass lacking improved combustion air supply mechanism and flue gas ventilation system i.e. without a grate as well as a chimney; for the rest of the systems using woody biomass 0.2 default value may be optionally used. 0.5 default value may be used if the replaced system or the system that would have been used is a fossil fuel combusting system. Use weighted average values if more than one type of systems are encountered.

According to the ex-ante survey conducted, the water boiling systems that are replaced are mostly three stone fire systems and the biomass used is wood.

Therefore, an efficiency of xx.xx% is used. Please refer to Annex 3.

Therefore SEC = xxx kJ/L

Establishment of the Non Renewable Biomass factor, f_{NRB}

¹⁵ WHO guidelines for Emergency Treatment of drinking water at point of the use http://www.searo.who.int/LinkFiles/List_of_Guidelines_for_Health_Emergency_Emergency_treatment_of_drinking_water.pdf>.



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Project participants may use applicable default values, detailed formulas or approved tools provided by the UNFCCC to establish fNRB, if available at the time of CPA inclusion.

The fraction of woody biomass used in the absence of the project activity is taken from the information note of the EB 67 Report Annex 22: "Default values of fraction of non-renewable biomass for least developed countries and small island developing states (version 01.0)"

A value of fNRB = 77% is used.

Project emissions

If the operation of the project water purification system involves consumption of fossil fuels and/or electricity, project emissions include:

- CO₂ emissions from on-site consumption of fossil fuels due to the project activity shall be calculated using the latest version of the tool "Tool to calculate project or leakage CO₂ emissions from fossil fuel combustion";
- CO₂ emissions from electricity consumption by the project activity using the latest version of the tool "Tool to calculate baseline, project and/or leakage emissions from electricity consumption".

Leakage emissions

Leakage relating to the non-renewable woody biomass is assessed as per the relevant procedures of AMS-I.E version 5 explained below:

 B_y is multiplied by a net to gross adjustment factor of 0.95 to account for leakages, in which case surveys are not required.



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B.5.3. Summary of the ex-ante estimation of emission reductions:

Year	Estimation of project activity emissions (tonnes of CO ₂ e)	Estimation of baseline emissions (tonnes of CO ₂ e)	Estimation of leakage (tonnes of CO ₂ e)	Estimation of overall emission reductions (tonnes of CO ₂ e)
1	0	8,400	400	8,000
2	0	10,800	500	10,300
3	0	13,300	700	12,600
4	0	16,100	800	15,300
5	0	18,900	900	18,000
6	0	18,900	900	18,000
7	0	18,900	900	18,000
8	0	18,900	900	18,000
9	0	18,900	900	18,000
10	0	18,900	900	18,000
Total (tonnes of CO ₂ e)	0	162,000	7,800	154,200

B.6. Application of the monitoring methodology and description of the monitoring plan:

B.6.1. Description of the monitoring plan:

It is responsibility of the Teuk Saat 1001 to monitor and record all parameters, under the guidance of the CME.

The monitoring is done as per the requirement of AMS-III.AV Version 3 and the Standard for sampling and surveys for CDM project activities and programme of activities Version 03.0 and is described below:

1) Parameters to be monitored for each CPA:

The following table gives an overview of the parameters to be monitored for each CPA:

Parameter	Means of monitoring	Monitoring frequency	Comments
Existence of public			
distribution network of			
supplying safe			
drinking water			

2) Parameters to be sampled for each CPA individually, or for groups of CPAs to which this CPA belongs



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The following table gives an overview of the parameters to be <u>sampled for this CPA individually</u>, <u>or for groups of CPAs to which this CPA belongs</u>:

Parame ter	Means of monitoring	Monitoring frequency	Type of parameter	Confidence/preci sion level (frequency of sampling)	Comments
Quantit					
y of					
purified					
water					

(a) Sampling Design:

Due to the large number of the household water purification devices envisaged to be distributed as part of this CPA, it is not economically feasible to monitor each individual unit distributed. Therefore, representative sampling will be undertaken as part of a Sampling Plan that is designed in line with the requirements of AMS-III.AV v3 and the "Standard for sampling and surveys for CDM project activities and programme of activities" Version 03.0 (the Sampling standard).

(i) Objectives and Reliability Requirements:

The objective is to obtain a reliable estimate of the variables listed in the table above over the course of the crediting period and meeting the indicated confidence/precision levels. The frequency of sampling will always comply with the requirements of the methodology and the Sampling Standard.

(ii) Target Population:

The overall target population are the household water purification devices distributed as a result of the CPAs implemented under the PoA. Each device will be identified by a unique identification number for each CPA. In addition, each device is linked to a cluster, defined as the lowest level of administrative unit existing within the project boundary (e.g. villages). Each device is assigned to a CPA and linked to an end user whose premises can be visited during monitoring. The information is collected by the [name of CPA implementer], and is stored on the shared drive maintained by the CME in the CPA specific folder.

(iii) Sampling Method:

Grouping of CPAs will be performed according to the following two criteria:

- Technology
- Host-country

This means that this CPA will only be grouped with other, future CPAs involving the installation of water kiosks in Cambodia.

Within each group, clustered sampling will be undertaken, to account for the fact that the users of the household water purification devices will be grouped geographically (e.g. in villages).. The clusters to be sampled will be drawn from the list of all the clusters within the project boundary, and during sampling all the devices (identified through their individual unique ID numbers) linked to that said cluster will be visited. In case not all the devices could be visited during monitoring within one cluster, the sampled



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values from the cluster will be retained if i) a maximum two observations were missing per cluster ii) the estimates for that said cluster reach the required reliability (e.g. 95% or 90% confidence, 10% precision) of the sampling campaign.

Alternatively if information on the clusters is not available or the required precision cannot be achieved through clustered sampling, simple random sampling may also be performed, in which case the sampling will be applied based on the serial numbers of the devices.

The sampling will be done using an excel spread sheet, which will be programmed to randomly select numbers corresponding to the unique ID numbers of the clusters (for clustered sampling) or the devices (for simple random sampling).

Whenever possible, the sampled parameters will be monitored jointly, i.e. for each sampled household all the applicable parameters will be sampled. However, the CME may allow Teuk Saat 1001 to stop monitoring a particular parameter once the required level of confidence/precision has been reached. More clusters/devices will be selected for sampling than is required by the sample size, to ensure that if there are any household water purification devices that are unable to be reached and/or households not willing to provide responses the required accuracy is still achieved.

(iv) Sample Size:

The size of the sample for each sampling frame is determined by the requirement to achieve 95/10 confidence/precision in case of biennial or grouped verification, or 90/10 confidence/precision in case of annual verification, for the estimation of the proportion or mean value of the parameter investigated.

In order to calculate the required sample sizes, estimates for the proportions or the mean values and their standard deviations shall be used. For the subsequent monitoring periods, the estimates shall be adjusted taken the results of the previous monitoring period(s) into account.

The following estimates shall be used for the first monitoring period of this CPA:

Parameter	Estimated value	Justification	

[formula for sampling approach to be used]

Using the above assumptions, we receive the following minimum cluster size:

Parameter	Minimum size (95% confidence)	Minimum size (90% confidence)

[description of results]

(v) Sampling Frame

Generally, the above mentioned parameters are sampled among all distributed household water purification devices for groups of CPAs as indicated above. In case a CPA cuts across these groups, it will be monitored individually. Hence, the overall sampling frame consists of all installed household

¹⁶ This is in line with the "Guidelines for sampling and surveys for CDM project activities and programme of activities", Version 02.0



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water purification devices, represented by their unique identification numbers stored on the shared drive maintained by the CME in the CPA specific folder.

3) Data management:

(i) Field Measurements:

The following parameters will be measured as indicated below:

Parameter	Frequency	Methods to be applied	Comments on seasonal fluctuation

(ii) Quality Assurance/Quality Control:

The potential for non-responses, refusals and related issues will be considered during sample selection. If the sampling results are insufficient to achieve the target reliability levels, the CME may request Teuk Saat 1001 to remedy this situation in a number of ways (see below). Selecting a larger than necessary sample size before commencing monitoring, can help ensure that an adequate number of responses are obtained during sampling. If it is necessary to engage third parties for carrying out field measurements, the CME will ensure that any such third parties are credible, experienced adequately trained for the tasks they are contracted for (e.g. carrying out water tests) in line with a methodology. Training will be provided to the parties carrying out the actual field measurements on how to deal with non-responses etc if necessary.

The calculation of the sample size will be carried out using estimates for proportions, mean of values and standard deviations as the actual characteristics of the population/sampling frame are unknown. In order to ensure the quality of the sampling results, the CME can draw on the provisions for reliability calculations as provided by the *Guidelines for Sampling and Surveys for CDM project activities and programme of activities Version 02.0 (EB 69, Annex 5)*. In the event that the sampling results do not fulfil the required level of confidence and precision, the CME will request the [name of CPA implementer] to sample additional clusters. If the reliability is still not sufficient after additional samples, the sampling may be repeated with an increased sample size.

The data contained in each individual CPA Monitoring Record and collected during field measurements will be transferred to the CME by Teuk Saat 1001. The CME will be responsible to ensure that such data is stored on the shared drive maintained by the CME in the CPA specific folder.

(iii) Analysis:

The data obtained from sampling of each CPA will be used to estimate values for the parameters described above for use in GHG ER calculations.

(c) Implementation:

(i) Implementation Plan

It is envisaged that Teuk Saat 1001 will implement the Sampling Plan over the course of the PoA, including contracting all necessary third parties who would be responsible for actual field measurements,



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under the guidance of the CME. The actual timing will depend on the speed of CPA inclusion and household water purification device distribution. Teuk Saat 1001 will be trained by the CME to ensure that field measurements are undertaken in line with the standards required of the Sampling Plan. The skills and experience required for the data collection activities under the Sampling Plan may include: [list of skills required]

The following parameters will be monitored:

Data and parameters as per AMS-III.AV version 03

Based on AMS-III.AV version 03, the following data will be monitored during the project crediting period:

Data / Parameter:	QPW_v	
Data unit:	Quantity of purified water in year y	
Description:	litres	
Source of data to be used:	[clarify if water meter readings or value derived from the capacity of the equipment and the number of functional project appliances]	
Value of data applied		
for the purpose of calculating expected emission reductions in section B.5	Year water purified QWP _y	
	1	
	2	
	3	
	4	
	5	
	[]	
	X	
Description of measurement methods and procedures to be applied:	[clarify if monitored on continuous basis or a representative sample thereof or whether derived from the capacity of the equipment established by manufacturers' specifications and the number of functional project appliances, N_y]	
	The value is subject to a cap based on the number of persons supplied with purified water from each of the functional project appliances POP _P times the average volume of drinking water per person per day DW _{POP} .	
QA/QC procedures to	The date of installation/distribution of a device shall be considered in the	
be applied:	calculation of the emission reductions. In case a device is found to be non-functioning, it shall be deducted from the	
	emission reductions for the whole monitoring period or from the date it broke	
	down if this date is recorded.	
Any comment:	[For case 2 total project population needs to be adjusted for the fraction of the	
	population serviced by the project equipment at households/buildings for which it	



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can be demonstrated through documentation or survey that the practice of water
purification would have been water boiling
Clarify whether monitored directly]
The quantity of purified water shall be subject to a cap calculated as the
population serviced by the project equipment times an average volume of
drinking water per person per day to account for the fact that only purified water
consumed for drinking purposes can be used in the baseline calculation.

Data / Parameter:	N_{y}		
Data unit:	-		
Description:	Number of functional project appliances in year y		
Source of data to be	Sampling surveys fo	or each group of CI	PAs
used:			
Value of data applied		,	,
for the purpose of calculating expected emission reductions in	Year	Nb of devices N _{P,y}	
section B.5			
	1		
	2		
	3]
	4]
	5]
	[]		
	X		
Description of measurement methods			will be determined based on representative for each group of CPAs. It will be checked
and procedures to be	that the appliances		ng or replaced by an equivalent service
applied:	appliance.		
			0 confidence/precision, in line with the
	.		and the STANDARD FOR SAMPLING
			ECT ACTIVITIES AND PROGRAMME
0.1.10.0	OF ACTIVITIES, V		
QA/QC procedures to be applied:			has not been replaced, it will be excluded ation for the whole monitoring period
	considered, unless e	vidence of the date	e it broke down can be provided.
	The start date of	each device, i.e.	date of installation/distribution, will be
			nt of water purified during the year.
			dard procedures and will be kept for two
			eriod or the last issuance of CERs for this
	project activity, which		
Any comment:	Parameter used to ca	alculate the quantit	y of purified water QWP _y

Data / Parameter:	Existence of public distribution network supplying safe drinking water
	and the control of public distribution network supplying said arithmens, water



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Data unit:	-
Description:	Existence of public distribution network supplying safe drinking water to the project boundary in year y
Source of data to be used:	[Interviews with officials, end-users, NGOs, or local experts or published reports, maps, pictures, official documents]
Value of data applied for the purpose of calculating expected emission reductions in section B.5	There is no public distribution network supplying safe drinking water to the project boundary.
Description of measurement methods and procedures to be applied:	If during the crediting period SDW is made available through a public distribution network the emission reductions pertaining to the households/buildings supplied by the public system can not be claimed from that point onwards. This condition should be checked annually during the crediting period;
QA/QC procedures to be applied:	In case a SDW network is found to be existing, households related to this SDW will be identified via map, surveys, pictures, and emission reductions related to those households will be discounted accordingly considering the number of households linked to the network and the date the network became operational. It will be checked annually if new households from the project boundary are being linked to the network.
Any comment:	

Data / Parameter:	POP _v
Data unit:	-
Description:	Number of persons supplied with purified water from each of the functional
	project appliances
Source of data to be used:	Sampling surveys
Value of data applied	[XX or Not applicable, since project Case 1]
for the purpose of	
calculating expected	
emission reductions in	
section B.5	
Description of	[Constitution of the standard Control of the standard
measurement methods	[Sampling surveys as per sampling standard. Or Not applicable, since project
and procedures to be	Case 1]
applied:	
QA/QC procedures to	Data will be collected using the standard procedures and will be kept for two
be applied:	years after the end of the crediting period or the last issuance of CERs for this
	project activity, whichever occurs later.
Any comment:	For CPAs falling in case 2 only. For CPAs falling in case 1, ex-ante survey is
	conducted. [clarify if applicable of not to this CPA]
	Used to calculate the cap of purified drinking water consumed for drinking
	purposes only according to paragraph 6.



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Data / Parameter:	Water quality
Data unit:	-
Description:	water quality
Source of data to be	Sampling surveys
used:	
Value of data applied	[national standard or WHO interim target]
for the purpose of	
calculating expected	
emission reductions in	
section B.5	
Description of measurement methods and procedures to be applied:	To ensure compliance of the water quality either with: (i) at a minimum the "interim" performance target as per "Evaluating household water treatment options: Health based targets and microbiological performance specifications" (WHO, 2011); or (ii) an applicable national standard or guideline, the water quality shall be monitored on sample basis for contamination with Escherichia coli (E. coli). A presence/absence test for E. coli colony forming units (CFU) in 10 ml of water or an equivalent quantitative test for E. coli CFU shall be used. A presence of up to 10 E. coli CFU/100 ml shall be acceptable ¹⁷ .
QA/QC procedures to be applied:	The fraction of water quality measurements providing water of insufficient quality shall be excluded from the calculation of emission reductions.
Any comment:	

Data / Parameter:	Monitoring parameters for the project emissions from fossil fuel
	combustion
Data unit:	
Description:	Parameters to be monitored for the calculation of project emissions from fossil
	fuel combustion as per the tool
Source of data to be	As per the Tool to calculate project or leakage CO ₂ emissions from fossil fuel
used:	combustion" version 02.
Value of data applied	XX
for the purpose of	
calculating expected	
emission reductions in	
section B.5	
Description of	
measurement methods	[if applicable to be monitored for each CPA]
and procedures to be	
applied:	
QA/QC procedures to	[if applicable to be monitored for each CPA]

_

¹⁷ WHO classifies a contamination of up to 10 E. coli CFU/100 ml as low risk. An absence of E. coli CFU in 10ml can therefore be used as an indication that the drinking water is safe. See: Table 5.2 on page 78 of Guidelines for drinking-water quality, second edition, Volume 3 Surveillance and control of community supplies



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be applied:	
Any comment:	To be considered only in the case the water purification device consume fossil fuel.

Data / Parameter:	Monitoring parameters for the project emissions from electricity consumption		
Data unit:	consumption		
Description:	Parameters to be monitored for the calculation of project emissions from electricity consumption as per the tool		
Source of data to be used:	As per the Tool to calculate baseline, project and/or leakage emissions from electricity consumption version 01.		
Value of data applied for the purpose of calculating expected emission reductions in section B.5	[if applicable to be monitored for each CPA]		
Description of measurement methods and procedures to be applied:	[if applicable to be monitored for each CPA]		
QA/QC procedures to be applied:	[if applicable to be monitored for each CPA]		
Any comment:	To be considered only in the case the water purification device consume electricity		

C.1.	Please indicate the level at which environmental analysis as per requirements of the CDM
modali	ties and procedures is undertaken. Justify the choice of level at which the environmental
analysi	is is undertaken:

☐ Please tick if this information is provided at the PoA level. In this case sections C.2. and C.3. need not be completed in this form.

Given that the PoA is international, each host party requirements is considered at CPA level.

C.2. Documentation on the analysis of the environmental impacts, including transboundary impacts:

The objective of the SSC-CPA is the installation of water kiosks for communities who are boiling or would have boiled the water as purification mean.

No negative environmentally impacts are expected during distribution and operation of the water purification systems.



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[refer to national laws]

C.3. Please state whether an environmental impact assessment is required for a typical CPA, included in the <u>programme of activities (PoA)</u>, in accordance with the <u>host Party laws/regulations</u>:

[refer to Cambodia's Ministry of Environment policy on environmental impact assessment]

D.1. Please indicate the level at which local stakeholder comments are invited. Justify the choice: Please tick if this information is provided at the PoA level. In this case sections D.2. to D.4. need not be completed in this form. D.2. Brief description how comments by local stakeholders have been invited and compiled: A local stakeholder consultation will be conducted in early 2014. D.3. Summary of the comments received: To be added after the Local Stakeholder Consultation in early 2014. D.4. Report on how due account was taken of any comments received:

To be added after the Local Stakeholder Consultation in early 2014.



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Annex 1

CONTACT INFORMATION ON ENTITY/INDIVIDUAL RESPONSIBLE FOR THE $\underline{\text{SMALL-SCALE CPA}}$

Organization:	Teuk Saat 1001
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State/Region:	Phnom Penh
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URL:	http://www.1001fontaines.com
Represented by:	Lo CHAY
Title:	Executive Director
Salutation:	Mr.
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Annex 2

INFORMATION REGARDING PUBLIC FUNDING

[Information on Public Funding, if applicable]



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Annex 3

BASELINE INFORMATION

[Information on Baseline survey and on fNRB calculation]



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Annex 4

MONITORING INFORMATION

Monitoring information is provided in section B.6.1 of the CPA-DD.